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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,320	09/26/2003	Yohichiroh Watanabe	242938US0	5358
22850 7590 04/12/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER DOTE, JANIS L	
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SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/12/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

10/670,320

Applicant(s)

WATANABE ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2007.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 8-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3 and 8-28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

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1. The examiner acknowledges the amendments to claims 1, 21, 24, and 26 filed on Jan. 22, 2007. Claims 1, 3, and 8-28 are pending.

2. The examiner notes that applicants refer to the instant specification by citing paragraph numbers. However, the paragraphs in the instant specification are not labeled with numbers. In the future, applicants should refer to the instant specification using page and line numbers.

3. The examiner has considered the US applications listed on "List of related cases" in the Information Disclosure statements (IDS) filed on Nov. 22, 2006, Dec. 12, 2006, and Feb. 16, 2007.

The examiner crossed out the US application listed on the "List of related cases" in the IDS filed Jan 22, 2007, because the examiner has considered the published version of said US application, which is listed on the form PTO-1449 filed on Jan. 22, 2007.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. US 2003/0138717 A1 (Yagi) was published on Jul. 24, 2003, and has an effective filing date of Oct. 31, 2002. Both dates are prior to the filing date of Sep. 26, 2003, of the instant application. The inventive entity of Yagi differs from that of the instant application. Thus, Yagi qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e). Accordingly, Yagi qualifies also as prior art under 35 U.S.C. 103(a) and 103(c).

6. Claims 1, 3, 8-12, and 15-27 are rejected under 35 U.S.C. 103(a) as unpatentable over Yagi, as evidenced by the Polymer Technology Dictionary, page 444, and by applicants' admission at page 24, line 20, to page 25, line 12, page 26, line 20, to page 27, line 2, page 28, lines 10-18, page 31, lines 11-14, page 36, lines 8-10, and Table 1 at page 83, examples 1-6 and comparative examples 3 and 4, of the originally filed specification (applicants' admission 1).

Yagi discloses a toner comprising toner particles comprising a binder resin, carnauba wax as the releasing agent, and carbon black, and organic fine resin particles 1 adhered to the surface of the toner particles at a coverage ratio of 32%. See paragraphs 0239-0273; example 2 in paragraph 0274; and Table 1 at page 23, example 2. The binder resin comprises a

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modified polyester resin and an unmodified polyester resin - low molecular weight polyester 1. The toner has a number average particle size (D_n) of 5.50 μm and a volume average particle size (D_v) of 6.07 μm , and a ratio of D_v/D_n of 1.10. The toner also has an average circularity of 0.953. See Table 1 at page 23, example 2. The average circularity, the D_v , the ratio D_v/D_n , and are within the ranges recited in instant claims 12, 17, and 18, respectively. The reference low molecular weight polyester resin has a weight average molecular weight of 6700, which is within the second resin weight average molecular weight range of 2,000 to 10,000 recited in instant claims 1, 21, 24, and 26, and an acid value of 25, which is within the acid value range recited in instant claim 9. The low molecular weight polyester resin also has a number average molecular weight of 2500, and a peak molecular weight in the range of from 1,000 to 30,000. Paragraph 0151, lines 1-2, and paragraph 0244, lines 14-15. The number average molecular weight and peak molecular weight are within the ranges of the non-modified polyester resin recited in instant claim 19. The weight ratio of the modified polyester to low polyester resin 1 is about 0.6, which is within the ratio range of 5/95 to 60/40 recited in instant claim 8. The weight ratio was determined by the information provided in example 2 of Yagi. Organic fine resin.

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particles 1 have a Tg of 57°C, and an average particle size of 100 nm. The Tg and average particle size meet the ranges recited in instant claim 3 and 11, respectively. The organic fine resin particle average particle size of 100 nm is 0.016 times the average particle size of the toner particles (6.07 μm = 6070 nm), which is within the range of 0.002 to 0.2 times recited in instant claims 1, 21, 24, and 26.

Yagi further discloses that the remaining ratio of organic fine resin particles 1 on the surface of the toner particles is 0.5 % by weight based on the weight of the toner particles. Table 1 at page 23, example 2. Yagi defines the remaining ratio as the ratio of the weight of the resin particles remaining on the surface of the toner particles to the weight of the toner particles. Paragraphs 0086-0088. The originally filed specification at page 36, lines 8-10, discloses that the content of 0.5 to 5.0% by weight of particulate material based on the total weight of the toner particles means "the percentage of the particulate resin remaining on the surface of the toner particles which have been subjected to a washing treatment." Thus, the Yagi remaining ratio of fine resin particles has the same definition as the content of particulate material recited in instant claims 1, 21, 24, and 26. Accordingly, the Yagi remaining ratio of 0.5 % by weight meets the content range of

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0.5 to 5.0% by weight based on the weight of the toner particles recited in instant claims 1, 21, 24, and 26.

Yagi further discloses that toner particles can be mixed with an external additive to assist in improving fluidity, developing property, and charging ability of the toner particles, which meets the external additive limitation recited in instant claim 23. Paragraph 0176.

Yagi also discloses that the toner can be used in a two-component developer comprising a carrier, which is coated with a resin layer. The resin layer may comprise an acrylic resin or a silicone resin. Paragraph 0222, lines 5-8, 14-15, and 17-18. The two-component developer meets the developer limitation recited in instant claim 27. Yagi discloses a toner container shown in Fig. 2. Paragraph 0236.

The Yagi toner in example 2 is obtained by: (1) preparing a master batch comprising the carbon black and a polyester resin; (2) preparing a material solution comprising the carnauba wax and the low molecular weight polyester 1; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution, and additional low molecular weight polyester; (4) mixing the pigment-wax dispersion of step (3), a modified polyester resin comprising isocyanate groups, which is capable of reacting with an active hydrogen to form the urea-

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modified polyester, and a ketimine compound, which has an active hydrogen, in an organic solvent; (5) dispersing the mixture of step (4) in an aqueous medium comprising the organic fine resin particles, while reacting the ketimine compound with the modified polyester resin to form toner particles; (6) removing the organic solvent from the dispersion of step (5); (7) washing the toner particles resulting from step (6); and (8) drying the washed toner particles. Paragraphs 0252-0273. The Yagi process steps meet the process steps recited instant claims 1, 21, and 26.

Yagi does not explicitly disclose that the binder resin in example 2 has a glass transition T_g of not lower than 35°C and lower than 55°C recited in instant claims 1, 21, 24, and 26. Nor does Yagi disclose that the binder resin comprises the tetrahydrofuran (THF) insoluble components recited in instant claims 1, 21, 24, and 26, or the molecular weight distributions recited in instant claims 19 and 20. Nor does Yagi disclose that the modified polyester resin has the number average molecular weight or peak molecular weight recited in instant claim 19. Nor does Yagi disclose that the toner has a flow starting point of from 80 to 170°C recited in instant claim 16.

The originally filed specification discloses that the toner binder resin preferably has a T_g of not lower than 35°C and lower

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than 55°C. According to the originally filed specification, when the Tg is too high, the resultant toner has poor low temperature fixability; and when the Tg is too low, "the resultant toner has poor preservability and thereby the blocking problem in that the toner particles adhere to each other, resulting in formation of a block of the toner tends to occur." Instant specification, page 26, line 20, to page 27, line 2, and Table 1 at page 83, examples 1-6 and comparative example 3.

The specification discloses that the binder resin comprises THF-insoluble components in an amount of 2 to 30 wt% based on the total weight of the binder resin. According to the originally filed specification, when the amount of THF-insolubles is too low, the resultant toner has poor hot offset resistance; and when the amount is too high, the toner has poor low temperature fixability. Instant specification, page 28, lines 10-18, and Table 1, examples 1-6 and comparative example 4.

The originally filed specification discloses at page 24, line 20, to page 25, line 12, that the THF components of the modified polyester resin and the unmodified polyester resin have a peak molecular weight and the molecular weight distributions recited in instant claims 19 and 20 "in view of a low temperature fixability and offset resistance."

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The specification at page 31, lines 11-14, discloses that the toner also has a flow starting temperature as recited in instant claim 16 "in view of low temperature fixability and offset resistance."

As discussed above, the toner binder resin in the Yagi toner particles and the Yagi toner particles meet the compositional limitations recited in instant claims 1, 16, 19-21, 24, and 26; but the properties discussed supra are not disclosed expressly. As discussed supra, the Yagi toner in example 2 is obtained by a process that meets the steps recited in instant claims 1, 21, and 26. Yagi teaches that its binder resin preferably has a Tg of from 50 to 70°C. According to Yagi, when the Tg is too low, the high temperature preservability of the toner deteriorates. Paragraph 0154. Yagi discloses that the toner in example 2 has low temperature fixability and offset resistance, and does not contaminate the image forming members used, such as the fixing device and image bearing member. Paragraph 0032; and Table 3 at page 23, example 2, which reports that the toner in example 2 has a "lower fixing temperature" of 140°C and exhibits no occurrence of offset for temperatures below 220°C. Table 3 also reports that no toner filming was observed. These are the properties sought by applicants. Accordingly, because the Yagi binder resin and toner particles meet the

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compositional limitations recited in the instant claims and the Yagi toner appears to have the toner properties sought by applicants, it is reasonable to presume that the binder resin in the Yagi toner in example 2 has the Tg recited in instant claims 1, 21, 24, and 26, and comprises the THF insoluble components and has THF soluble component molecular weight properties recited in instant claims 1, 19-21, 24, and 26, and that the Yagi toner in example 2 has the flow starting point recited in instant claim 16. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Yagi also does not explicitly disclose that the organic fine resin particles are embedded in the surface of the toner particles as recited in instant claims 1, 21, 24, and 26. However, as discussed above, organic fine resin particles in example 2 of Yagi are present on the surface of the toner particles in a coverage ratio of 32%. The Yagi toner in example 2 is obtained by a process that meets the steps recited in instant claims 1, 21, and 26. Therefore, it is reasonable to presume that the Yagi organic fine resin particles are embedded in the surface of the toner particles as recited in instant claims 1, 21, 24, and 26. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Yagi does not appear to exemplify organic fine resin

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particles comprising a crosslinked resin having the weight average molecular weight recited in instant claims 1, 21, 24, and 26. However, Yagi teaches that the organic fine resin particles can equally comprise a thermoplastic resin or a thermosetting resin. Paragraph 0078, lines 3-4. A thermosetting polymer is usually defined as "a low molecular weight polymer, which may be cured, or cross-linked so as to yield a cross-linked plastics material or a vulcanized rubber." See the Polymer Technology Dictionary, page 444. The term "crosslinking agent" broadly recited in the instant claims encompasses anything that aids the crosslinking process. It is also well known in the polymer art that crosslinked thermosetting polymers are cross-linked by crosslinking agents. Thus, on the present record, Yagi teaches cross-linked organic fine particles that meet the cross-linked particulate resin recited in instant claims 1, 21, 24, and 26. Yagi further teaches that the thermoplastic resins and thermosetting resins include vinyl resins, polyurethane resins, epoxy resins, or polyester resins. Paragraph 0078-0079. The fine resin particles in example 2 of Yagi comprise a resin comprising styrene and methacrylic acid, where both monomers are present in weight ratios of 0.29 (29%) based on the total monomers constituting the resin particles. The weight ratios of 0.29

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were determined from the information provided in paragraph 0239 of Yagi. The weight ratios of styrene and methacrylic acid satisfy the inequalities recited in instant claim 15. Yagi further teaches at paragraph 0077 that the resin particles preferably have a Mw not greater than 100,000, and more preferably from 4,000 to 50,000. The upper limits, 100,000 and 50,000, of the MW ranges are within the Mw range of 9,000 to 200,000 recited in instant claim 7. The ranges "not greater than 100,000" and "from 4,000 to 50,000" overlap the range of 9,000 to 200,000 recited in instant claims 1, 21, 24, and 26. According to Yagi, "[w]hen the weight average molecular weight is too high, the resin particles prevent the toner from adhering to a receiving medium, and thereby causing a problem in that the fixing temperature has to be increased." Thus, the prior art appears to recognize that the Mw of the fine resin particles is a result-effective variable. The variation of a result-effective variable is presumably within the skill of the ordinary person in the art.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yagi, to use a thermosetting resin as the resin in the organic fine resin particles and to adjust, through routine experimentation, the Mw of the organic fine resin particles, such that the resultant

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fine resin particles are cross-linked with a cross-linking agent and have a Mw that is within the range recited in the instant claims, such as 100,000 or 50,000. It would have also been obvious for that person to use the resultant organic fine resin particles as the organic fine resin particles in the toner in example 2 of Yagi. That person would have had a reasonable expectation of successfully obtaining a toner that does not prevent the toner from adhering to a receiving member and has the properties as discussed by Yagi.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yagi, as evidenced by the Polymer Technology Dictionary, page 444, and applicants' admission I, as applied to claim 1 above, combined with US 2002/0037467 A1 (Watanabe).

Yagi, as evidenced by the Polymer Technology Dictionary, page 444, and applicants' admission I, renders obvious a toner as described in paragraph 6 above, which is incorporated herein by reference.

The claim is rejected for the reasons discussed in the office action mailed on Oct. 20, 2006, paragraph 7, which are incorporated herein by reference.

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8. Applicants' arguments filed on Jan. 22, 2007, as applicable to the rejections over Yagi in paragraphs 6 and 7 above have been fully considered but they are not persuasive.

Applicants assert that Yagi does not teach or suggest that its particulate resin particles are embedded in the surface of the toner particles as recited in the instant claims. Nor, according to applicants, does Yagi disclose or suggest a particulate resin material crosslinked using a crosslinking agent as recited in the instant claims.

Applicants' assertions are not persuasive. For the reasons discussed in the rejection in paragraph 6, page 10, above, it is reasonable to presume that the Yagi particulate resin material is embedded in the surface of the toner particles. Applicants have not come forward with any objective evidence to show otherwise.

Furthermore, applicants' assertion that Yagi does not disclose or suggest a particulate resin material crosslinked using a crosslinking agent is merely attorney argument that is not supported by any objective evidence on the present record. As discussed in the rejection in paragraph 6 above, Yagi teaches that its particulate resin material can be a thermosetting polymer, which are known in the polymer art as polymers that may be cured or cross-linked so as to yield a cross-linked plastics

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material. The phrase "crosslinking with a crosslinking agent" broadly recited in the instant claims encompasses anything that aids in the crosslinking the polymer, including heat, light, compounds that initiate crosslinking, such as a catalyst, as well as compounds that have difunctional groups that react with groups on the polymer chains. The examiner does not know of any examples where crosslinked polymers are not cross-linked by some form of a crosslinking agent. Applicants have not come forward with any evidence showing that thermosetting resins can be crosslinked without a crosslinking agent. Thus, on the present record, Yagi teaches a particulate resin material that is crosslinked with a crosslinking agent.

The examiner notes that if applicants pursue the argument that because the reference does not teach a thermosetting polymer is not crosslinked with a "crosslinking agent" as recited in the instant claims, instant claims 1, 21, 24, and 26 may be rejected under 35 U.S.C. 112, first paragraph, for lack of adequately describing the broadly recited "crosslinking agent" recited in those claims. The originally filed disclosure at page 14, line 22, to page 15, line 6, is directed, not to crosslinking a particulate resin material, but to making a toner, where the modified polyester toner binder resin is "subjected to a reaction, such as addition polymerization using

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a crosslinking agent and/or an extending agent to prepare [toner] particles." The disclosure in example 5 at page 63, lines 17-20, of a single particular species of crosslinked particulate resin material crosslinked with the particular compound, divinylbenzene, does not provide an adequate written description of the generically recited "particulate resin . . . crosslinked with a crosslinking agent" in the instant claims.

Applicants further assert that Yagi does not teach or suggest the advantages of using a crosslinked particulate resin material as disclosed by applicants and as shown in example 5 of the instant specification.

However, for the reasons discussed in paragraph 6 above, Yagi teaches a particulate resin material that is crosslinked with a crosslinking agent. Furthermore, as discussed in the rejection in paragraph 6 above, in example 2 of Yagi, the particulate resin material is adhered to the surface on the toner particles at a coverage ratio of 32%. Yagi also teaches the disadvantages of having the entire surface of the toner particles covered with the resin particles. See Yagi, paragraph 0084. In addition, as discussed in the rejection in paragraph 6, page 9, above, Yagi discloses that its toner has low temperature fixability and offset resistance toner, and no toner filming was observed on the surface of the photoreceptor,

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i.e., transferability, which are the same properties sought by applicants. Furthermore, the results exhibited by the toner in example 5 appear to be same or similar to those reported for toners comprising non-crosslinked particulate resin material. See the instant specification, Table 1, examples 1-5, and Table 3, examples 8, 11, and 13. In addition, the particular cross-linked particulate resin in example 5 does not appear to be commensurate in scope with instant claims 1, 21, 24, and 26, because example 5 does not specify that the cross-linked particulate resin material have a weight average molecular weight of 9,000 to 200,000, which is required in the instant claims. Moreover, the particular crosslinked particulate material in example 5 is a particular copolymer of specific vinyl addition monomers crosslinked with "divinylbenzene." Instant claims 1, 21, 24, and 26 broadly recite a "particulate resin . . . crosslinked using a crosslinking agent." Applicants have not shown that any of the argued advantages exhibited by the toner in example 5 are obtainable from crosslinked particulate resin material that are outside the scope of the particular particulate resin material in example 5 and commensurate within the full scope of instant claims 1, 21, 24, and 26.

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Applicants assert that, as acknowledged by the examiner, Yagi fails to disclose or suggest that its binder resin has a glass transition temperature (Tg) and comprises a tetrahydrofuran (THF)-insoluble component as recited in the instant claims; and that its particulate resin material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles recited in the instant claims, and has a Tg and weight average molecular weight as recited in the instant claims. Applicants argue that "not all toners having the same composition necessarily have the claimed properties."

Applicants assert that "it would not be obvious to use a binder resin and a particulate resin having the above properties, particularly in view of the substantial lack of disclosure in Yagi."

Applicants' assertions are not persuasive. First, applicants have mischaracterized the rejection over Yagi set forth in the previously mailed office action on Oct. 20, 2006, paragraph 6. As stated in that rejection and in the rejection in paragraph 6 above, the particulate resin material in example 2 of Yagi has an average particle size of 100 nm that "is 0.016 times the average particle size of the toner particles (6.07 μm = 6070 nm), which is within the range of 0.002 to 0.2 times recited in instant claims 1, 21, 24, and 26." See the

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office action mailed on Oct. 20, 2006, paragraph 6, page 5, lines 1-5, and the rejection in paragraph 6 above, page 5, lines 3-7. Thus, Yagi teaches the particle size ratio limitation of the particulate resin material particle size to the toner particles particle size recited in the instant claims.

Second, as discussed in the rejection in paragraph 6 above, in addition to the Yagi toner binder resin meeting the toner binder resin composition limitations recited in the instant claims and being made by a process that meets the process steps recited in the instant claims 1, 21, and 26, the Yagi toner in example 2 also exhibits the same properties sought by applicants when the toner binder resin has the Tg and the THF-insoluble content recited in the instant claims. Thus the examiner has provided sufficient reasons, in addition to meeting the toner binder compositional limitations recited in the instant claims, to reasonably presume that the Yagi toner binder resin has the Tg and the THF-insoluble content recited in the instant claims. Applicants have not come forward with any objective evidence to show otherwise.

Third, as discussed in the above rejection in paragraph 6 above, Yagi teaches that its particulate resin preferably has a Mw of not greater than 100,000, more preferably from 4,000 to 50,000. As discussed in the rejection, the upper Mw limits of

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100,000 and 50,000 are within the Mw range of 9,000 to 200,000 recited in the instant claims; and that the Yagi Mw ranges overlap the range recited in the instant claims. Yagi further teaches the disadvantages of using a particular resin material not having said Mw. In addition, as discussed in the rejection in paragraph 6 above, the particulate resin material exemplified in the toner in example 2 of Yagi has a Tg of 57°C, which is within the particulate resin material Tg range of 40 to 100°C recited in instant claims 1, 21, 24, and 26. Moreover, Yagi teaches that it is preferred that its particulate resin material have a Tg of 50 to 90°C, which is within the Tg range recited in instant claims 1, 21, 24, and 26. Yagi also teaches the disadvantages of using a particular resin material not having said Tg. Yagi teaches that when the particulate resin material Tg is less than 50°C, the toner preservability deteriorates and toner blocking problems occur; and when the Tg is above 90°C, the particulate resin material prevents the toner from adhering to the receiving material, "thereby causing problems in that the fixing temperature has to be increased, a wide fixing temperature cannot be obtained, and the toner cannot be used for image forming apparatus using a low temperature fixing device." See Yagi, paragraph 0076. Thus, Yagi also recognizes that the Tg of the particulate resin material is a result-effective

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variable, the variation of such a result-effective variable is presumably within the skill of the ordinary worker in the art. The toner preservability property is a property sought by applicants. Thus, for the reasons discussed above and in the rejection, it would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yagi, to use a thermosetting resin as the resin in the organic fine resin particles and to adjust, through routine experimentation, the Mw and Tg of the organic fine resin particles, such that the resultant fine resin particles are cross-linked with a cross-linking agent and have a Tg and a Mw that are within the ranges recited in the instant claims. It would have also been obvious for that person to use the resultant organic fine resin particles as the organic fine resin particles in the toner in example 2 of Yagi. That person would have had a reasonable expectation of successfully obtaining a toner that does not prevent the toner from adhering to a receiving member and has the properties as discussed by Yagi.

Accordingly, for the reasons discussed above and in the rejection in paragraph 6 above, the rejections in paragraphs 6 and 7 over Yagi stand.

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9. Claims 1, 3, 8-24, 26, and 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 26 and 28-50 of copending Application No. 11/475,165 (Application'165).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in Application'165 renders obvious the subject matter recited in the instant claims.

Reference claim 28 of Application'165 recites an image forming method comprising the step of fixing a toner image on an image bearing material by passing the image bearing material through a nip between a fixing belt and a pressure member as recited instant claim 28, wherein the toner used to form the toner image is that according to reference claim 1. The reference toner is obtained by process steps that meet the process steps recited in instant independent claims 1, 21, and 26. The toner comprises toner particles comprising a binder resin, a colorant, and a release agent and a particular material embedded on the surface of the toner particles. The binder resin comprises a modified polyester resin and a second resin having a weight average molecular weight of 2,000 to 10,000 as recited in instant independent claims 1, 21, 24, and 26. The binder resin has a glass transition (Tg) temperature that meets

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the Tg range recited in instant independent claims 1, 21, 24, and 26. The particulate material has an average particle diameter that meets the particle size limitation recited in instant claims 1, 21, 24, and 26.

Reference claim 28 does not recite that the particulate material comprises the particular resin recited in instant claims 1, 21, 24, and 26, or the amount of particulate material present recited in instant claims 1, 21, 24, and 26. Nor does reference claim 26 recite that the toner binder resin comprises a tetrahydrofuran (THF)-insoluble component as recited in instant claims 1, 21, 24, and 26.

Reference claim 26 recites a method of making a toner that comprises the steps recited in instant claims 1, 21, and 26. Reference claim 29, which depends on reference claim 26, requires that the particulate material have a Tg of 55 to 100°C that meets the Tg limitation as recited in instant claims 1, 21, 24, and 26. Reference claim 31, which depends on reference claim 29, requires that the particulate resin material be crosslinked. The term "crosslinking agent" broadly recited in the instant claims encompasses anything that aids the crosslinking process. It is also well known in the polymer art that crosslinked polymers are cross-linked by crosslinking agents. Thus, on the present record, the reference claims of

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Application'165 recite a crosslinked particulate resin material that meets the particulate resin crosslinked with a crosslinking agent as recited in instant claims 1, 21, 24, and 26. Reference claim 34, which depends on reference claim 29, requires that the particulate material have a weight average molecular weight and be present in an amount that meets both the molecular weight and amount limitations recited in instant claims 1, 21, 24, and 26. Reference claims 33 and 48, which depend from reference claim 26, require that the toner binder resin comprise THF insolubles that meet the THF-insoluble limitations recited instant claims 1 and 26 and instant claim 21, respectively. Reference claim 30 and reference claims 35-47, 49, and 50, which depend from reference claims 29 and 26, respectively, recite the binder resin limitations, the particulate material limitations, and the toner particle size and shape limitations recited in instant dependent claims 3, 8-20, 22, and 23, which depend from instant claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Application'165, to make and use a toner as recited in the instant claims. That person would have had a reasonable expectation of successfully obtaining a toner, a method of making said toner, and a method of fixing a toner image using

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said toner that meet the limitations recited in the instant claims.

Applicants' arguments filed on Jan. 22, 2007, did not address the merits of the rejection. Applicants merely assert that if it the provisional rejection is the only issue remaining in the application, the rejection should be withdrawn.

Because the provisional obvious-type double patenting rejection is not the only issue in the application, the rejection stands.

10. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system; see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLD

Apr. 5, 2007

Janis L. Dote
JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500-
1700

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date corrected
8/31/06;11/22/06;12/12/06;01/22/07;02/15/07;03/06/07.